

concentrations were greater at the upstream site, it was expected that the turbidity would also be greater. A possible explanation for this would be that the runoff between the two sites contained less sediment and was less turbid thereby diluting the water from the upstream site. In addition, the upstream site continued to sample during the very low flows of June-August, 2004, while the water was too low to collect samples at the downstream site. This contributed to the greater upstream turbidity as excluding these seven samples reduced the mean turbidity from 40 to 33.6 ntu. While the mean turbidity of the water samples was much greater than that of Little River, it was still below the state standard of 50 ntu for receiving waters (NC DENR, 1997).

The mean temperature increased slightly from upstream to downstream. This was expected given that the Creek flowed from primarily a wooded area upstream through a more open area before it reached the downstream site. The mean conductivity, DO, and pH were basically the same for upstream and downstream sites. This was expected given that the highway construction activities should have little effect on these parameters unless there was an accident.

Table 3. Summary of Water Quality Data for Crane Creek.

	Turb. ntu	Temp. C	Conductivity mS/cm	DO mg/L	pH
Upstream Site					
mean	40	15.4	0.054	8.4	6.3
median	25	14.8	0.050	8.7	6.0
range	7-167	2-23	0.034-0.089	2.6-15.7	4.5-7.7
number	44	20	20	20	19
Downstream Site					
mean	26	15.9	0.054	8.3	6.2
median	19	15.1	0.049	8.1	6.3
range	7-56	2.3-23	0.037-0.089	3.1-15.5	5.2-7.9
number	43	21	21	21	23

The nitrogen and phosphorus concentrations in 4 upstream and downstream samples are shown in Table 4. While the concentrations for the individual samples vary slightly, the means for the upstream samples were nearly equal to the corresponding mean for the downstream samples. This was expected given that there were no apparent major inputs of nitrogen or phosphorus between the two monitoring sites.

Table 4. Summary of Nitrogen and Phosphorus Data for Crane Creek

Date	TKN mg/L	NH ₃ -N mg/L	NO ₃ -N mg/L	TP mg/L	TSS mg/L
Upstream					
10/31/2003	0.51	0.01	0.04	0.12	20
5/7/2004	0.90	0.01	0.11	0.14	11
11/5/2004	0.70	0.01	0.11	0.16	20
3/10/2005	0.71	0.01	0.32	0.12	44
Mean	0.71	0.01	0.15	0.14	24